



## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 8388 WO F PA-FRI	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/005884	International filing date (day/month/year) 05 June 2003 (05.06.2003)	Priority date (day/month/year) 11 June 2002 (11.06.2002)
International Patent Classification (IPC) or national classification and IPC B60K 7/00, F41H 7/02		
Applicant ZF FRIEDRICHSHAFEN AG		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand 08 January 2004 (08.01.2004)	Date of completion of this report 29 October 2004 (29.10.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/005884

## I. Basis of the report

1. With regard to the elements of the international application:<sup>\*</sup> the international application as originally filed the description:

pages \_\_\_\_\_ 1-9

, as originally filed  
pages \_\_\_\_\_ , filed with the demand

pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

pages \_\_\_\_\_

1-17

, as originally filed

pages \_\_\_\_\_ , as amended (together with any statement under Article 19

, filed with the demand

pages \_\_\_\_\_

, filed with the letter of \_\_\_\_\_

pages \_\_\_\_\_

1/5-5/5

, as originally filed

pages \_\_\_\_\_

, filed with the demand

pages \_\_\_\_\_

, filed with the letter of \_\_\_\_\_

 the sequence listing part of the description:

pages \_\_\_\_\_ , as originally filed

pages \_\_\_\_\_ , filed with the demand

pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

 the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4.  The amendments have resulted in the cancellation of: the description, pages \_\_\_\_\_ the claims, Nos. \_\_\_\_\_ the drawings, sheets/fig. \_\_\_\_\_5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).<sup>\*\*</sup>

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.  
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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-17	YES
	Claims		NO
Inventive step (IS)	Claims	10, 12, 14, 15	YES
	Claims	1-9, 11, 13, 16, 17	NO
Industrial applicability (IA)	Claims	1-17	YES
	Claims		NO

## 2. Citations and explanations

Reference is made to the following documents:

D1: WO 00/32462 A (GRANT ET AL.)

8 June 2000 (2000-06-08)

D2: US-A-4 074 784 (LEE ET AL.)

21 February 1978 (1978-02-21)

D3: FR-A-2 706 370 (GIAT)

23 December 1994.

1. D1 discloses (see figure 15) an electrically driven vehicle with a vehicle chassis 699, and a plurality of drive wheels, each of said wheels being associated with a drive with an electric drive motor 694; connecting gears 695-698, with a housing, are provided for drivingly connecting the drive motor to the drive wheel 708, said connecting-gear housing being located on the side of the drive wheel and drive motor that faces the centre of the vehicle and being rigidly connected to the vehicle chassis 699; an articulated shaft 702 is also provided, said shaft being between an output of the connecting gears and the drive wheel and being connected to the output of the connecting gears by means of an articulated joint 701.

/ ...

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D2 discloses (see column 6, lines 17-29; figure 1) an electrically driven vehicle with a plurality of articulated drive wheels, each of which is associated with a drive comprising an electric drive motor, said drive motor being located radially outside the drive wheel within the axial space occupied by the drive wheel, and connecting gears with a housing 186 being provided for drivingly connecting the drive motor 182 to the drive wheel 178, said housing being located on the side of the drive wheel and drive motor that faces the centre of the vehicle.

A person skilled in the art of electrical drives who is seeking a more compact design for the vehicle drive according to D1, would use the teaching of D2 and thus arrive without inventive input at a vehicle according to claim 1. Therefore, the solution proposed in claim 1 of the present application cannot be considered inventive (PCT Article 33(3)).

It is not clear which features are included in the devices according to claims 16 and 17. However, these features are certainly included in claim 1 and, in consequence, the subject matter of claims 16 and 17 is not inventive.

2. Both D1 and D2 disclose the features of claims 5 and 11.

The features of claims 6-8 and 13 are conventional in the manufacture of vehicles (see, for example, D3, column 11, line 67 to column 12, line 8; figures 2 and 19-21).

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Mounting a motor within the chassis is conventional in military vehicles (see for example D3).

Dependent claims 2, 4 and 9 do not make an inventive contribution to the claims on which they are dependent.

The position of the gasket according to claim 3 does not appear to have any particular advantage.

The features of claims 10, 12, 14 and 15 allow the drive to be of a compact design and are not suggested by the searched prior art. They are therefore considered to be inventive (PCT Article 33(3)).